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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/681,481

10/08/2003

Paul A. Farrar

1303.112US1

7468

21186

7590

09/18/2008

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EXAMINER

BLAN, NICOLE R

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

09/18/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/681,481	<b>Applicant(s)</b> FARRAR, PAUL A.	
	<b>Examiner</b> NICOLE BLAN	<b>Art Unit</b> 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-7, 9-11, 14-17, 20, 22-25, 41-42, and 44-46 is/are pending in the application.
- 4a) Of the above claim(s) 3,4,6,15 and 45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,7,9-11,14,16,17,20,22-25,41,42,44 and 46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Election/Restrictions***

1. After further consideration, the Examiner is withdrawing the previous election restriction. Claims 3-4, 6, 8, 15, 19, 21, 26-29 and 45 are re-joined and examined on the merits. Claims 1-29 and 41-46 are examined on their merits.

### ***Specification***

2. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: halogenated hydrocarbon.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-4, 6-7, 9-11, 14-17, 20, 22-25, 41-42, and 44-46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claims 1, 11, 16, 22, and 41, the subject matter not properly described in the application as filed is brushing the semiconductor surface while the surface is in contact with a halogenated hydrocarbon carrier fluid.

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Claim 3: There is no disclosure for contacting a semiconductor with a halogenated hydrocarbon carrier fluid and forming a supercritical fluid with any fluid other than carbon dioxide.

In claim 6, the subject matter not properly described in the application as filed is contacting a semiconductor surface with a mixture of a halogenated hydrocarbon carrier fluid which includes an acid cleaning solution.

Claims 2, 4, 7, 9-10, 14-15, 17, 20, 23-25, 42, and 44-46 are rejected under 35 U.S.C. 112, first paragraph as being dependent upon a rejection claim.

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

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6. Claims 1-4, 6-7 and 10 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12, 14-18, and 20-22 of U.S. Patent No. 7,303,637 in view of Jackson et al. (U.S. Patent 5,013,366, hereinafter '366).

Conflicting patent 7,303,637 teaches all of the limitations of claims 1-4, 6-7 and 10 except for the carrier fluid being a halogenated hydrocarbon. '366 teaches a similar method of cleaning a semiconductor in which the semiconductor is suspended (or immersed) in a fluid [paragraph that bridges cols. 10-11] wherein the fluid comprises halogenated hydrocarbons [col. 3, lines 35-48]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fluid taught by '366 as the fluid disclosed by U.S. Patent 7,303,637 because '366 discloses a similar method of cleaning in which a halogenated hydrocarbon carrier fluid is utilized in semiconductor cleaning.

7. Claims 11 and 14-15 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2 and 8 of U.S. Patent No. 7,303,637 in view of Jackson et al. (U.S. Patent 5,013,366, hereinafter '366).

Conflicting patent 7,303,637 teaches all of the limitations of claims 11 and 14 except for the carrier fluid being a halogenated hydrocarbon and the supercritical fluid being formed from carbon dioxide. '366 teaches a similar method of cleaning a semiconductor in which the semiconductor is suspended (or immersed) in a fluid [paragraph that bridges cols. 10-11] wherein the fluid comprises halogenated hydrocarbons [col. 3, lines 35-48] and that the supercritical fluid can be formed from carbon dioxide [col. 11, line 8]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fluids

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taught by '366 as the fluid disclosed by U.S. Patent 7,303,637 because '366 discloses a similar method of cleaning in which a halogenated hydrocarbon carrier fluid and a carbon dioxide supercritical fluid is utilized in semiconductor cleaning.

8. Claims 16-17 and 20 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 12, 15 and 18 of U.S. Patent No. 7,303,637 in view of Jackson et al. (U.S. Patent 5,013,366, hereinafter '366).

Conflicting patent 7,303,637 teaches all of the limitations of claims 16-17 and 20 except for the carrier fluid being a halogenated hydrocarbon. '366 teaches a similar method of cleaning a semiconductor in which the semiconductor is suspended (or immersed) in a fluid [paragraph that bridges cols. 10-11] wherein the fluid comprises halogenated hydrocarbons [col. 3, lines 35-48]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fluid taught by '366 as the fluid disclosed by U.S. Patent 7,303,637 because '366 discloses a similar method of cleaning in which a halogenated hydrocarbon carrier fluid is utilized in semiconductor cleaning.

9. Claims 22-23 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 8 and 18 of U.S. Patent No. 7,303,637 in view of Jackson et al. (U.S. Patent 5,013,366, hereinafter '366).

Conflicting patent 7,303,637 teaches all of the limitations of claims 22-23 except for the carrier fluid being a halogenated hydrocarbon and using sonic energy to enhance cleaning action. '366 teaches a similar method of cleaning a semiconductor in which the semiconductor is

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suspended (or immersed) in a fluid [paragraph that bridges cols. 10-11] wherein the fluid comprises halogenated hydrocarbons [col. 3, lines 35-48] and that sonic energy is used to enhance cleaning semiconductors [col. 11, lines 36-40]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fluid taught by '366 as the fluid disclosed by U.S. Patent 7,303,637 because '366 discloses a similar method of cleaning in which a halogenated hydrocarbon carrier fluid is utilized in semiconductor cleaning.

10. Claim 22 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 12 and 15-17 of U.S. Patent No. 7,303,637 in view of Jackson et al. (U.S. Patent 5,013,366, hereinafter '366).

Conflicting patent 7,303,637 teaches all of the limitations of claim 22 except for the carrier fluid being a halogenated hydrocarbon. '366 teaches a similar method of cleaning a semiconductor in which the semiconductor is suspended (or immersed) in a fluid [paragraph that bridges cols. 10-11] wherein the fluid comprises halogenated hydrocarbons [col. 3, lines 35-48]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fluid taught by '366 as the fluid disclosed by U.S. Patent 7,303,637 because '366 discloses a similar method of cleaning in which a halogenated hydrocarbon carrier fluid is utilized in semiconductor cleaning.

11. Claims 41-42 and 46 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-2, 12, 15 and 18 of U.S. Patent No. 7,303,637 in view of Jackson et al. (U.S. Patent 5,013,366, hereinafter '366).

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Conflicting patent 7,303,637 teaches all of the limitations of claims 41-42 and 46 except for the carrier fluid being a halogenated hydrocarbon. '366 teaches a similar method of cleaning a semiconductor in which the semiconductor is suspended (or immersed) in a fluid [paragraph that bridges cols. 10-11] wherein the fluid comprises halogenated hydrocarbons [col. 3, lines 35-48]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the fluid taught by '366 as the fluid disclosed by U.S. Patent 7,303,637 because '366 discloses a similar method of cleaning in which a halogenated hydrocarbon carrier fluid is utilized in semiconductor cleaning.

12. Claims 1-4, 11, 14, 16-17, 20, 22, 41-42, and 44-46 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 23-29 of U.S. Patent No. 7,303,637. Although the conflicting claims are not identical, they are not patentably distinct from each other because, for example, claims 23-27 of the conflicting patent substantially recited the manipulative steps by claims 1-4 of the instant application. Similarly, claims 23-24 and 27 of the conflicting patent substantially recited the manipulative steps by claims 11 and 14 of the instant application. Similarly, claims 23-24 and 27 of the conflicting patent substantially recited the manipulative steps by claims 16-17 and 20 of the instant application. Similarly, claims 23 and 27 of the conflicting patent substantially recited the manipulative steps by claim 22 of the instant application. Similarly, claims 23-24 and 27-29 of the conflicting patent substantially recited the manipulative steps by claims 41-42 and 44-46 of the instant application.



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***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NICOLE BLAN whose telephone number is (571)270-1838. The examiner can normally be reached on Monday - Thursday 8-5 and alternating Fridays 8-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. B./

Examiner, Art Unit 1792

/Alexander Markoff/

Primary Examiner, Art Unit 1792